Chapter 1
INTRODUCTION

1.1 Purpose and Need

1.1.1 The HMS Process and History

On November 28, 1990, the President of the United States signed into law the Fishery Conservation Amendments of 1990 (Pub. L. 101-627). This law amended the Magnuson Act and gave the Secretary of Commerce (Secretary) the authority (effective January 1, 1992) to manage tuna in the exclusive economic zone (EEZ) of the Atlantic Ocean, Gulf of Mexico, and Caribbean Sea under authority of the Magnuson Act (16 U.S.C. 1811). This law also transferred from the Fishery Management Councils to the Secretary, effective November 28, 1990, the management authority for the other highly migratory species (HMS) in the Atlantic Ocean, Gulf of Mexico, and Caribbean Sea (16 U.S.C. 1854(f)(3)).[1] At this time, the Secretary delegated authority to manage these Atlantic HMS to the National Marine Fisheries Service (NMFS). In order to accomplish this task an administrative process for creating fishery management plans (FMPs) and other rulemaking was implemented (58 FR 49966). This eight-phase administrative process was needed since the Fishery Management Councils (FMCs) do not regulate HMS. This process is outlined below. In 1996, Congress amended the Magnuson Act with the Sustainable Fisheries Act (Pub. L. 104-297, re-naming it the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act)), to require that NMFS establish advisory panels (APs) to assist in the development of FMPs and FMP amendments including those for Atlantic HMS.

1. Phase 1 -- Planning and Scoping
    a. Notice-of-intent to prepare an FMP or FMP amendment;
    b. Draft issues/options statement;
    c. Initial consultations; and
    d. Scoping meetings.

2. Phase 2 -- Preparation of Draft Documents; Consultations and Meetings
    a. Revised issues/options statement;
    b. Documents to be prepared;
    c. Preparation strategy;
    d. Document contents;
    e. International management recommendations;
    f. Timing; and
    g. Consultations; meetings with fishery interests.

[1] The Magnuson-Stevens Act, at 16 U.S.C. 1802(14), defines the term "highly migratory species" as tuna species, marlin (*Tetrapturus* spp. and *Makaira* spp.), oceanic sharks, sailfishes (*Istiophorus* spp.), and swordfish (*Xiphias gladius*). Further, the Magnuson-Stevens Act, at 16 U.S.C. 1802(27), defines the term "tuna species" as albacore tuna (*Thunnus alalunga*), bigeye tuna (*Thunnus obesus*), bluefin tuna (*Thunnus thynnus*), skipjack tuna (*Katsuwonus pelamis*), and yellowfin tuna (*Thunnus albacares*).

3. Phase 3 -- Initial Public Review and Comment Period; NEPA Public Review and Comment Period; ANPR Public Review and Comment Period if Applicable; and Public Hearings

   a. Notice of availability to the public; ANPR published if applicable;

   b. Review periods and comments; and

   c. Public hearings.

4. Phase 4 -- Preparation of Revised Documents and Proposed Regulations; Consultations and Meetings

   a. Documents to be prepared;

   b. Preparation strategy;

   c. Document contents;

   d. Timing; and

   e. Consultations; meetings with fishery interests.

5. Phase 5 -- Final Public Review and Comment Period; Proposed Regulations Published for Public Review and Comment

   a. Notice of availability to the public and proposed regulations published; and

   b. Review periods and comments.

6. Phase 6 -- Preparation of Final Documents and Final Regulations

   a. Documents to be prepared and document contents; and

   b. Preparation strategy.

7. Phase 7 – Approval and implementation

   a. Approval procedures and timing.

8. Phase 8 – Continuing and contingency fishery management

   a. Framework management measures; and

   b. Contingency fishery management – emergency actions.

1.1.2 Issues/Problems for Resolution

The fisheries for Atlantic tuna, swordfish and sharks share many similar management problems. The following management problems will be addressed in this FMP. They are not listed in any particular order.

Overfished stocks of highly migratory species

While there are numerous issues to consider in the management of HMS, in many cases rebuilding overfished stocks is the primary concern. In September 1997, and again in September 1998, NMFS classified west Atlantic bluefin tuna, north Atlantic swordfish, and the 22 species that comprised the large coastal shark management unit (the large coastal shark management unit is subdivided into ridgeback, non-ridgeback large coastal sharks, and prohibited species in this FMP) as overfished. In September 1998, NMFS classified Atlantic bigeye tuna as overfished. Although north Atlantic albacore was not listed by NMFS as overfished in the 1998 Report to Congress, this species meets the status determination criteria adopted in this FMP. These stocks have been, or are being, fished beyond their ability to support maximum sustainable yield. Problems associated with overfishing and overfished stocks may include reduced population stability, lower or more unpredictable yields and concomitant difficulty sustaining viable commercial fishing and charterboat operations, reduced availability to recreational anglers, higher costs to consumers, economic losses to related businesses (e.g., marinas, tackle shops, restaurants), and shifts in ecosystem dynamics. Problems caused by overfishing of HMS are exacerbated by the fact that the United States shares most of these stocks with other countries and data show that the United States is often responsible for only a small share of Atlantic-wide fishing mortality for these species.

Excess fishing mortality caused by bycatch and discards

Bycatch and discards in HMS fisheries can be problematic because they further depress overfished stocks, impede stock rebuilding, and, in the case of target species, carry an opportunity cost of foregone harvest or enjoyment for all segments of the fisheries. Bycatch of Atlantic bluefin tuna, billfish, juvenile swordfish, sharks, marine mammals, and sea turtles is of particular concern in HMS fisheries. Bycatch in the pelagic longline and driftnet fisheries is well documented relative to that for other gear types. In all HMS fisheries, all sources of mortality, including bycatch, need to be described and managed. NMFS is charged with national and international requirements to avoid and reduce bycatch and bycatch mortality under the Magnuson-Stevens Act, the Marine Mammal Protection Act (MMPA), the Endangered Species Act (ESA), and the Atlantic Tunas Convention Act, which provides the authority to implement ICCAT recommendations. The discard of bycatch or lower-valued fish (known as high-grading) is among the most difficult fishery management challenges, making attainment of conservation and economic goals of fishery managers, the fishing industry, and the public problematic (Dewees and Ueber, 1990). In HMS fisheries, bycatch by non-selective harvesting gear may be more common than high-grading. However, commercial and recreational retention limits may lead to high-grading. Catch and release in commercial and recreational fisheries also plays a role in the overall balance of the ecosystem when considering the fate of released animals, predator-prey relationships, and environmental quality.

Inconsistencies and inadequacies in international compliance with conservation and management measures

Atlantic HMS are fished and managed by many nations. The International Commission for the Conservation of Atlantic Tunas has adopted management recommendations for, *inter alia*, west Atlantic bluefin tuna, north Atlantic swordfish, Atlantic bigeye tuna, and Atlantic yellowfin tuna. However, international cooperation with ICCAT management measures is necessary for adequate conservation and management of these species. With the exception of west Atlantic bluefin tuna, ICCAT recommendations, to date, have not adequately addressed rebuilding populations of overfished stocks to levels that would produce maximum sustainable yield on a continuing basis. While the United States has complied strictly with ICCAT recommendations, compliance by many other countries has not been as consistent. U.S. fishery participants have expressed concern that they are subject to higher standards, and greater loss of fishing income and recreation, when other nations do not implement and adequately enforce conservation and management recommendations. The failure of other fishing nations to implement and enforce comparable conservation and management measures could impede achievement of the objectives of this FMP. At this time, no international management regimes currently exist for Atlantic sharks.

Assuring optimal data collection

Monitoring the fishery and its stock requires the collection and timely analysis of fishery-dependent and -independent data. The fishery management program must include measures to ensure adequate social, economic, and biological data collection from all user groups, including, as appropriate: permitting (of vessels, dealers, and importers), observer programs, logbook reporting programs, other self-reporting mechanisms, dockside monitoring, and telephone surveys.

Domestic HMS management needs to be integrated and streamlined

Atlantic tuna and swordfish are managed under the dual authority of the Magnuson-Stevens Act and ATCA. Wherever possible, NMFS attempts to implement regulations under the dual authority of both acts. To date, there has been no FMP for Atlantic tuna. Under the authority of the Magnuson-Stevens Act, north Atlantic swordfish and Atlantic sharks are managed under FMPs. These management documents were created some time ago by different organizations (i.e., the South Atlantic Fishery Management Council and the Secretary, respectively), in response to different management needs. Management of Atlantic HMS needs to be updated to reflect current management authority, practices in the fisheries, and statutory requirements. Furthermore, there is a great deal of overlap in the participants, issues, and target catches in the HMS fisheries and, in some instances, management can be streamlined and simplified to acknowledge this overlap.

Overcapitalization

There are many problems associated with open access fisheries. The greater the number of fishing vessels participating, the more likely it is that individual fishing enterprises will become unprofitable or marginal. Combined with limited quotas, this can lead to greater pressure to catch fish faster. The resulting "race for the fish" or derby fishery produces market gluts, poor product quality, and safety concerns. Shortened fishing seasons also mean that fresh fish may not be available to consumers for prolonged periods. This could lead to either a market void or meeting the consumer demand with imported fish. If the latter happens, the market niche for domestic fishermen could be lost. In the swordfish and shark commercial fisheries, there is a severe mismatch of harvest capacity and resource productivity in that the number of permitted vessels is far in excess of the number of vessels that are actually active in the fisheries. For example, in 1996 there were approximately 2,257 shark permit holders, but mandatory logbook data indicate that only about 565 landed at least one large coastal shark. As progressively more Atlantic, Gulf, and Caribbean fisheries come under limited access, pressure on those fisheries that remain open access will increase. There is already evidence that excess vessels are spilling over from other fisheries and that many fishermen are attempting to enhance their future security by developing a catch history in alternative fisheries.

1.1.3 Domestic Considerations

Although NMFS must abide by all laws (see Section 1.7), the primary domestic legislation guiding fishery management is the Magnuson-Stevens Act. This legislation contains ten National Standards (NSs) which fishery managers must consider when preparing a Fishery Management Plan or Amendment. These NSs are:

1. Conservation and management measures shall prevent overfishing while achieving, on a continuing basis, the optimum yield from each fishery for the U.S. fishing industry;

2. Conservation and management measures shall be based upon the best scientific information available;

3. To the extent practicable, an individual stock of fish shall be managed as a unit throughout its range, and interrelated stocks of fish shall be managed as a unit or in close coordination;

4. Conservation and management measures shall not discriminate between residents of different states. If it becomes necessary to allocate or assign fishing privileges among various U.S. fishermen, such allocation shall be (A) fair and equitable to all such fishermen; (B) reasonable calculated to promote conservation; and (C) carried out in such manner that no particular individual, corporation, or other entity acquires an excessive share of privileges;

5. Conservation and management measures shall, where practicable, consider efficiency in the utilization of fishery resources; except that no such measure shall have economic allocation as its sole purpose;

6. Conservation and management measures shall take into account and allow for variations among, and contingencies in, fisheries, fishery resources, and catches;

7. Conservation and management measures shall, where practicable, minimize costs and avoid unnecessary duplication;

8. Conservation and management measures shall, consistent with the conservation requirements of the Act (including the prevention of overfishing and rebuilding of overfished stocks), take into account the importance of fishery resources to fishing communities in order to (A) provide for the sustained participation of such communities, and (B) to the extent practicable, minimize adverse economic impacts on such communities;

9. Conservation and management measures shall, to the extent practicable, (A) minimize bycatch and (B) to the extent bycatch cannot be avoided, minimize the mortality of such bycatch; and,

10. Conservation and management measures shall, to the extent practicable, promote the safety of human life at sea.

The National Standard Guidelines (NSGs) on how NMFS follows the NSs are published at 50 CFR Part 600 subpart D. In developing this final FMP, NMFS considered all of the NSs for each final action. In some cases, a section of this FMP includes the agency's consideration. For example, for NS9, Section 3.5 outlines the HMS bycatch reduction strategy.

1.1.4 International Considerations

During the development of this FMP, a principal discussion at AP meetings revolved around the relationship between international management and domestic management of Atlantic HMS. Since 1966, ICCAT has been responsible for international conservation and management of tuna and tuna-like fishes. ICCAT's stated objective is to "cooperate in maintaining the populations of these fishes at levels which will permit the maximum sustainable catch for food and other purposes." All of the Atlantic HMS, including tuna, swordfish, and billfish, with the exception of the shark species, are currently subject to ICCAT management authority.

The U.S. Congress, in amending the Magnuson-Stevens Act, was clearly aware that these species support international fisheries. For instance, Congress included HMS in the rebuilding provisions of § 304, and directed the Secretary to address rebuilding of these stocks. Additionally, § 304(e) provides for consideration of recommendations by international organizations and specifies that rebuilding programs for HMS must reflect traditional participation in the fishery, relative to other nations, by U.S. fishermen.

International Rebuilding

NMFS recognizes that there must be international cooperation to rebuild ICCAT-managed fisheries. For those species subject to ICCAT management authority, the U.S. share of the total reported landings in 1997 is as follows: 61 percent of bluefin tuna catch in the west Atlantic, 27 percent of swordfish landings in the north Atlantic, six percent of Atlantic yellowfin tuna catch, and one percent of Atlantic bigeye tuna catch. Unilateral reduction of the U.S. quota would not have a significant effect from a biological perspective if the international total allowable catch remained the same and the U.S. share were reallocated or otherwise harvested. Further, any unilateral action that would reduce U.S. fishing effort may not reflect traditional participation in the fishery relative to foreign competitors and thus may not be consistent with the Magnuson-Stevens Act. By law, the United States must provide its fishing vessels with a reasonable opportunity to harvest an allocation, quota of fish, or fishing mortality level specified by international agreement. The Magnuson-Stevens Act also requires the United States to minimize, to the extent practicable, any disadvantage to U.S. fishermen in relation to foreign competitors.

NMFS has seriously considered the concerns of the AP as well as the requirements of the Magnuson-Stevens Act in determining how to develop rebuilding plans for these internationally fished stocks. This FMP addresses overfishing and rebuilding in the international context, in that it analyzes the *international* quota levels that would be necessary to rebuild stocks that are subject to ICCAT management authority. While NMFS recognizes that it cannot take unilateral quota action once it accepts an ICCAT quota recommendation, NMFS believes that it is possible to comply with the Magnuson-Stevens Act by establishing a foundation for international rebuilding programs for negotiations at ICCAT. Although ICCAT recommendations in the past have included minimum sizes, quotas, and compliance measures, these measures were not usually implemented as a coordinated rebuilding plan. A formal rebuilding program must allow overfished stocks to rebuild to the appropriate level to produce maximum sustainable yield in a clearly specified time period that is as short a time as possible within the international context. The rebuilding program must include targets for recovery, limits, and explicit interim milestones expressed in terms of measurable improvement of the stock. In November 1998, ICCAT adopted a rebuilding program, consistent with the Magnuson-Stevens Act, for west Atlantic bluefin tuna. The development of this rebuilding program was due, in large part, to the efforts of the U.S. delegation. The United States has encouraged the development and adoption of rebuilding programs for Atlantic swordfish and bigeye tuna, and any other overfished species, including billfish. ICCAT has adopted resolutions presented by the United States to set the stage for the development of rebuilding plans for Atlantic swordfish, bigeye tuna, and billfish. While this FMP forms the foundation for U.S. policy, NMFS recognizes that other factors may affect U.S. strategy in developing the U.S. position and negotiating at ICCAT.

In addition to west Atlantic bluefin tuna, ICCAT has identified north Atlantic swordfish as over-exploited. In 1996, ICCAT's Standing Committee on Science and Research (SCRS) reported that total swordfish biomass corresponding to maximum sustainable yield levels in

the north Atlantic may not be achieved in five or ten years without substantial reductions in catch from current levels. Unless recruitment increases substantially, a constant quota for a declining stock implies ever-increasing levels of fishing mortality. The Committee has suggested that target fishing mortality rates are less risky than constant catches for rebuilding over-fished stocks. These target fishing mortality rates are usually translated into corresponding quotas which require adjustment after each assessment, depending on the status of the stock. In response to the findings of SCRS, ICCAT implemented a substantial reduction in quotas for 1997 to 1999. However, in order to allow for an increase in stock biomass, SCRS has maintained that the level of harvest needs to be immediately reduced below the level of replacement yield. North Atlantic swordfish quotas will be re-evaluated by SCRS in 1999, and new management recommendations will be developed at the 1999 ICCAT meeting.

Although the bigeye tuna stock has not been identified as over-exploited by ICCAT, SCRS has determined that under the current exploitation pattern, and assuming recruitment at recent average levels, yields would be expected to decline in the near future to levels below maximum sustainable yield. ICCAT has recognized the danger that could be presented by the recent increase in bigeye tuna catches, especially increased landings of juveniles in the equatorial fishery by non-U.S. vessels. An observer program was mandated in 1995 to determine the incidences of catches of undersized fish resulting from the use of fish aggregating devices, with special emphasis on time/area analyses. ICCAT requested that, based on this program and other available information, SCRS determine the measures necessary to reduce catches of undersized fish that threaten the sustainability of this fishery.

For Atlantic sharks, which are not managed pursuant to ICCAT recommendations, this FMP addresses rebuilding requirements through domestic measures. No international management regimes currently exist; however, several international organizations do collect scientific and trade data on Atlantic sharks, including: SCRS, International Council for the Exploration of the Sea, International Union for the Conservation of Nature Shark Specialist Group, Northwest Atlantic Fisheries Organization, Convention on International Trade in Endangered Species Animals Committee, and the Latin American Organization for Fishery Development. NMFS recognizes that international cooperation is important, and the United States is actively pursuing international management of sharks through the Food and Agriculture Organization (FAO) consultation process, and regional management of sharks through cooperative discussions with Canada and Mexico.

In February, 1999, the United States was a leading participant in the FAO Consultation on Shark Conservation and Management and successfully negotiated with the world's fishing nations on concrete steps to improve shark conservation in its Global Plan of Action. The Global Plan of Action builds upon the FAO Code of Conduct for Responsible Fisheries, encompasses all shark fisheries (both target and non-target), and specifies action on education of fishermen, exchange of information on shark fisheries and studies, assessments on levels of non-target catch of sharks, and assessments of the effectiveness of management measures. The Global Plan of Action calls for nations, entities, and/or regional management bodies to develop individual plans of action to: 1) control threats to shark populations by

implementation of harvesting strategies consistent with the principles of biological sustainability and rational long-term economic use, and by protection of shark habitats; 2) improve and develop frameworks for effective consultation involving all stakeholders in research, management, and educational initiatives within and between nations; 3) identify and pay special attention to particularly vulnerable or threatened species; and 4) protect biodiversity and ecosystem structure and function.

Despite the lack of international management beyond FAO's Global Plan of Action, NMFS believes that strong domestic management is warranted, and rebuilding possible due to the fact that several important nursery areas (notably Delaware Bay, Chesapeake Bay, Bull's Bay, and Florida Bay) are located within U.S. waters. Therefore, proactive domestic management should rebuild shark stocks by protecting the most sensitive juvenile and subadult life history stages. As these stages are critical to rebuilding U.S. shark populations that also migrate into international waters, domestic management is a critical element for successful international shark management.

International Compliance

NMFS concurs with the AP's concern about the lack of international compliance with ICCAT's management regimes. The Agency shares the concern of U.S. fishery participants that their sacrifices may not result in the desired conservation effects when other nations fail to implement and enforce similar measures. Lack of compliance can ultimately diminish the effectiveness of ICCAT's recommendations and could impede the progress of any rebuilding plans that ICCAT develops. Thus, the United States has taken the lead in developing measures to encourage compliance by both ICCAT member countries and non-member countries.

Recognizing that compliance with catch limits is essential to the conservation of Atlantic bluefin tuna and north Atlantic swordfish, ICCAT adopted a recommendation to this effect in 1996. At the 1997 meeting, and each year thereafter, each ICCAT member nation with landings that exceed the catch limit for these species in the previous fishing year must explain to the Compliance Committee how the overharvest occurred, and the actions already taken, or to be taken, to prevent further overharvest. If, in the applicable management period any member nation exceeds its catch limit, its catch limit will be reduced in the next subsequent management period by 100 percent of the amount in excess of such catch limit, and ICCAT may authorize other appropriate actions. If any member nation exceeds its catch limit during any two consecutive management periods, ICCAT will recommend appropriate measures, which may include but are not limited to, reduction in the catch limit equal to a minimum of 125 percent of the excess harvest, and if necessary, trade restrictive measures. Any trade measures will be import restrictions on the subject species that are consistent with each nation's international obligations. The trade measures will be of such duration and under such conditions as ICCAT may determine.

ICCAT has also approved a binding recommendation to improve compliance with minimum size regulations. Beginning at the 1998 meeting, and each year thereafter, each

ICCAT member nation that has harvested any bluefin tuna weighing less that 1.8 kilograms, or whose harvest of any ICCAT stock exceeds the specified minimum size tolerance level must explain: a) the magnitude of the overharvest; b) domestic measures implemented to avoid further overharvest; c) monitoring of compliance with domestic measures; and d) any other actions to be taken to prevent further overharvest. Note that this absolute minimum size for bluefin tuna was increased to 3.2 kilograms at the 1998 meeting, and thus compliance evaluation will be relative to this size. Beginning at the 2000 meeting, if any member nation's actions have failed to prevent further overharvest, ICCAT may recommend measures to reduce the harvest of undersized fish, which may include, but are not limited to, time and area closures, assignment of small fish quotas, and/or gear restrictions.

Several other measures have been designed by ICCAT to improve compliance with conservation and management measures, including resolutions on vessel sighting, port inspection, and a vessel monitoring system pilot program.

At the 1998 meeting, ICCAT made substantial progress under these compliance provisions. Member nations that were responsible for overharvests under the terms of the 1996 compliance recommendation, relative to the east Atlantic bluefin tuna fishery and the north Atlantic swordfish fishery, acknowledged these overharvests and pledged to reduce their quotas accordingly. ICCAT also agreed to adopt a standard reporting form, proposed by the United States, that will further facilitate the evaluation of compliance with ICCAT recommendations at future meetings. Trade restrictions on bluefin tuna products from Panama, Belize, and Honduras that were approved by ICCAT in 1996 have been extended. ICCAT also took a first step toward authorizing the use of trade measures on swordfish products from these three countries. Recognizing the problems associated with vessels fishing under flags of convenience, ICCAT adopted a measure to address unreported and unregulated catches of tuna by large-scale longline vessels. This measure could lead to the revocation of the registration or fishing licences of vessels that are acting improperly and, if necessary, the use of trade restrictive measures.

Consistent with other applicable law, this FMP provides a framework to take necessary action under ICCAT compliance recommendations. However, while this FMP forms the foundation for U.S. policy, other factors may affect U.S. strategy in negotiating at ICCAT.

This FMP will be reviewed on a continuing basis, and promptly whenever a recommendation has been made by ICCAT, and conservation and management measures will be revised as appropriate.

1.1.5 Objectives

The management objectives of the FMP for Atlantic HMS are described below. They apply to tuna, swordfish, and sharks. They are not listed in any particular order.

- To prevent or end overfishing of Atlantic tuna, swordfish, and sharks and adopt the precautionary approach to fishery management;

- To rebuild overfished fisheries in as short a time as possible and control all components of fishing mortality, both directed and incidental, so as to ensure the long-term sustainability of the stocks and promote stock recovery of the management unit to the level at which the maximum sustainable yield can be supported on a continuing basis;
- To minimize, to the extent practicable, economic displacement and other adverse impacts on fishing communities during the transition from overfished fisheries to healthy ones;
- To minimize, to the extent practicable, bycatch of living marine resources and the mortality of such bycatch that cannot be avoided in the fisheries for Atlantic tuna, swordfish, and sharks;
- To establish a foundation for international negotiation on conservation and management measures to rebuild overfished fisheries and to promote achievement of optimum yield for these species throughout their range, both within and beyond the exclusive economic zone. Optimum yield is the maximum sustainable yield from the fishery, reduced by any relevant social, economic, or ecological factors;
- To provide a framework, consistent with other applicable law, to take necessary action under ICCAT compliance recommendations;
- To provide the data necessary for assessing the fish stocks and managing the fisheries, including addressing inadequacies in current collection and ongoing collection of social, economic, and bycatch data about HMS fisheries;
- Consistent with other objectives of this FMP, to manage Atlantic HMS fisheries for continuing optimum yield so as to provide the greatest overall benefit to the Nation, particularly with respect to food production, providing recreational opportunities, preserving traditional fisheries, and taking into account the protection of marine ecosystems;
- To better coordinate domestic conservation and management of the fisheries for Atlantic tuna, swordfish, sharks, and billfish, considering the multispecies nature of many HMS fisheries, overlapping regional and individual participation, international management concerns, historical fishing patterns and participation, and other relevant factors;
- To simplify and streamline HMS management while actively seeking input from affected constituencies, the general public, and the HMS AP;
- To promote protection of areas identified as essential fish habitat for tuna, swordfish, and sharks;
- To reduce latent effort and overcapitalization in HMS commercial fisheries;
- To develop eligibility criteria for participation in the commercial shark and swordfish fisheries based on historical participation, including access for traditional swordfish handgear fishermen to participate fully as the stock recovers; and
- To create a management system to make fleet capacity commensurate with resource status so as to achieve the dual goals of economic efficiency and biological conservation.

1.2 Conservation and Management Measures

The following table compares the preferred alternatives in the draft FMP and Addendum with the final management measures taken by NMFS in the final FMP to achieve the management objectives and management concerns described in Section 1.1. All final actions are described in Chapters 3 and 4.

Preferred Alternative in Draft FMP	**Final Action in Final FMP**
Tunas	
Prohibit pelagic driftnets for tuna	Same, but allow the few vessels using coastal driftnets to target dogfish, bluefish, monkfish, and weakfish to obtain experimental fishing permits for tuna catch. This will allow collection of data; NMFS will re-examine later
ICCAT Rebuilding Program: 2,500 mt ww west Atlantic TAC, 1,387 mt ww landing quota for United States - 20 year recovery	Same
Status quo percentage allocations, with Purse Seine category capped at 250 mt ww	Remain as proposed unless changed. Consult with the HMS AP.
Add "Consider effects on rebuilding and overfishing" as quota transfer criteria	Same
Status quo on bluefin tuna size limits	Same
Status quo: Bluefin Tuna Angling Category for recreational retention limits	Same
Time/area closure in north mid-Atlantic for pelagic longlines in June - 4x4 degree block: 37 to 41° N, 70 to 74° W	Smaller time/area closure with a different shape in north mid-Atlantic for pelagic longlines in June - 1x6 degree block: 39 to 40° N, 68 to 74° W
10-Year Recovery Program for bigeye tuna (if adopted by ICCAT)	Establish the foundation to develop an international 10-year rebuilding program for Atlantic bigeye tuna;
Status quo minimum size for bigeye tuna	Same
Spotter planes allowed	Same, follow up in a separate rulemaking
Establish a "School Reserve" Category	Same
Status quo minimum size for yellowfin tuna	Same
Establish a recreational retention limit of 3 yellowfin tuna/person/day	Same
Fishing year begins June 1 and ends May 31 for tuna	Same

Preferred Alternative in Draft FMP	Final Action in Final FMP
Swordfish	
10-year recovery period (8,000 mt ww)	Establish the foundation to develop an international 10-year rebuilding program for north Atlantic swordfish
Account for dead discards in swordfish management (Recreational and commercial fisheries)	Establish a foundation to account for dead discards in swordfish management; adopt if recommended by ICCAT.
Count recreational landings toward Incidental quota	Same
Prohibit imports of Atlantic swordfish weighing less that the U.S. minimum size,(proposed under separate rulemaking, contained in proposed rule that accompanied draft FMP)	Same
Neither preferred nor rejected as an alternative in draft	Status Quo retention limits for the directed commercial fishery
Neither preferred nor rejected as an alternative in draft	Status Quo bycatch limits in incidental fisheries
Neither preferred nor rejected as an alternative in draft	Status Quo retention limits in the recreational fishery
Status quo minimum size	Same
Time/area closure of Florida Straits to longline fishing from July through September	Prepare a proposed rule that would implement a more effective closure area to protect small swordfish
Status Quo authorized gears (driftnet prohibition proposed under separate rulemaking, contained in proposed rule that accompanied draft FMP)	Same, but now includes prohibition of pelagic driftnet gear form separate rulemaking
Fishing year begins June 1 and ends May 31 for swordfish	Same
Sharks	
Prohibit possession of uncommon and seriously depleted LCS in addition to the 5 currently prohibited species; allow retention (consistent with established quotas and recreational retention limits) of certain commonly landed LCS (sandbar, silky, tiger, blacktip, spinner, lemon, bull, nurse, smooth hammerhead, scalloped hammerhead, great hammerhead), pelagic sharks (shortfin mako, common thresher, porbeagle, oceanic whitetip, blue) and SCS (Atlantic sharpnose, blacknose, finetooth, bonnethead) within federal waters. Redefine management unit categories accordingly	Same with a few exceptions; blue sharks are not prohibited. Also, oceanic whitetips have a ridge but are not a LCS. Therefore, landings of oceanic whitetip must include fins for proper identification and enforcement. Prohibited sharks 19 species
Separate LCS management unit into ridgeback and non-ridgeback LCS with each subgroup having separate quotas; establish a minimum size and maintain quota level of 642 mt dw on ridgeback LCS; reduce the quota on non-ridgeback LCS to 218 mt dw	Same, but lower quotas to take into account the public display quota. Ridgeback quota = 622 mt dw. Non-ridgeback quota = 196 mt dw. Ridgeback large coastal sharks 3 species Non-ridgeback large coastal sharks 8 species

Preferred Alternative in Draft FMP	Final Action in Final FMP
Establish a species-specific quota for porbeagle sharks of 30 mt dw; reduce pelagic shark quota by 30 mt dw to 550 mt dw	Same, but revised data so the species-specific quota for porbeagle sharks is 92 mt dw; the pelagic shark quota is reduced by 92 mt dw to 488 mt dw Pelagic sharks 5 species
Establish a separate dead discard quota for blue sharks of 273 mt dw (545 mt ww); reduce pelagic shark quota by overharvests in blue shark quota	Establish a separate blue shark quota of 273 mt dw for landings and dead discards; the pelagic shark quota will still be reduced by overharvests in the blue shark quota.
Cap commercial SCS quota at 10% higher than 1997 levels (359 mt dw) pending future assessment	Same Small coastal sharks 4 species
Season-specific quotas and adjustments for the commercial fisheries; annual recreational retention limits and adjustments for recreational fisheries	Same
Account for all sources of fishing mortality in establishing quota levels, including counting dead discards and landings in state waters after federal closures against the federal quotas	Same
Establish separate public display quota of 60 mt ww (5% of LCS commercial quota); establish separate public display permitting and reporting system	Same
Status quo commercial retention limit (4,000 lbs dw per trip for LCS)	Same
Schedule fishery openings for specified periods; season-specific adjustments for quota overharvests and underharvests the following year (no reopening within that season)	Same
Establish catch and release only recreational fishing for LCS and SCS and establish a recreational retention limit of 1 pelagic shark/vessel/trip	Establish a recreational retention limit to 1 shark/vessel/trip with a minimum size of 4.5 feet (any species) and establish an allowance for 1 Atlantic sharpnose shark/person/trip (no minimum size)
Require that all sharks harvested by recreational anglers have heads, tails, and fins attached	Same
Status quo (no time/area closures for shark nursery and pupping areas)	Same
Adopt the Large Whale Take Reduction Plan Regulations under the authority of the Magnuson-Stevens Act	Same
Not preferred in draft	Require 100% observer coverage in the shark drift gillnet fishery at all times; prohibit the use of gillnet gear in Atlantic shark fisheries unless a NMFS-approved observer is on board

Preferred Alternative in Draft FMP	Final Action in Final FMP
Extend prohibition on finning to all sharks as condition of federal permit	Create new management group of "no finning allowed" species: deepwater and other (formerly data collection only) Deepwater/other sharks 33 species
Dissolve OT as superceded by HMS AP	Same
Fishing year begins January 1 and ends December 31 for sharks.	Same
All Species	
Require VMS for all pelagic longline vessels	Same
Require all gear to be marked with vessel identification number	Same; but may mark gear with vessel name
Move after one entanglement with protected species	Same
Limit length of mainline in MAB (interim measure)	Same
Close critical right whale habitat to LL and driftnet vessels	Not selected; would require preemption of states to implement under the Magnuson-Stevens Act
Mandatory education workshops for LL and driftnet vessels; Voluntary workshops for recreational fishermen	Voluntary education workshops for all HMS fishermen. Re-examine need for mandatory workshops for pelagic longline fishermen later.
Require observers on charterboats	Voluntary observer coverage of HMS charter/headboats. If enough data are not collected, establish a mandatory observer program.
Require charter/headboat vessels to obtain an annual vessel permit	Same; however, NMFS clarifies that this final action requires all tuna vessels, charter/headboat vessels, and commercial shark and swordfish vessels to obtain an annual vessel permit (previous authority for tuna, shark and swordfish vessels)
Require Charter/headboat vessels to submit logbooks	Same; however NMFS clarifies that this final action requires commercial shark and swordfish, and charter/headboat vessel to submit logbooks, if selected (previous authority for shark and swordfish vessels).
Require tournament registration for all tournaments that land HMS	Same
Complete logbooks within 24 hours of hauling a set	Complete logbooks within 48 hours of each day's fishing activities but prior to offloading.
Mandatory observer coverage for purse seine and harpoon vessels, if selected	Same, except NMFS clarifies that this authority already exists for a broader group (i.e., mandatory observer coverage for all tuna vessels, and commercial shark and swordfish vessels, if selected.)

Preferred Alternative in Draft FMP	Final Action in Final FMP
Limited Access	
Limit access	Same
Require a shark or swordfish permit during July 1, 1994, through December 31, 1997	Same
Require landings between January 1, 1987, to December 31, 1997 (swordfish); January 1, 1991, to December 31, 1997 (shark)	Same
Require a permit between June 1, 1998, to August 31, 1998 (swordfish); July 1, 1998, to August 4, 1998 (shark)	Require a permit between June 1, 1998, to November 30, 1998 (swordfish); January 1, 1998, to December 31, 1998 (shark)
Require landings of at least 25 swordfish or 102 sharks per year in any two calendar years during the landing eligibility period	Same or provide documentation of $5,000 worth of swordfish or shark landed per year
To qualify for an Atlantic swordfish directed or incidental permit, must obtain at least an Atlantic shark incidental permit	Same
Require landings of at least 11 swordfish and establish a minimum earned income requirement of more than 50% of their earned income from commercial fishing through the harvest and first sale of fish or from charter/headboat fishing, or those who had gross sales of fish greater than $20,000 harvested from their vessel, during any one of the last three calendar years; require landings of at least seven sharks	Same
No shark landings required if qualified for an initial directed or incidental swordfish limited access permit	Same
Issue a handgear permit to those fishermen who provide documentation of having been issued a swordfish permit for use with harpoon gear or those who landed swordfish with handgear as evidenced by logbook records, verifiable sales slips or receipts from registered dealers, or state landings records	Same
Issue directed fishery handgear permits to those applicants who meet the earned income requirement, i.e., those who had derived more than 50% of their earned income from commercial fishing through the harvest and first sale of fish or from charter/headboat fishing, or those who had gross sales of fish greater than $20,000 harvested from their vessel, during one of the three calendar years preceding the application	Same
If qualify for an initial directed or incidental swordfish limited access permit, an Atlantic tuna longline permit will be issued by NMFS	Same

Preferred Alternative in Draft FMP	Final Action in Final FMP
If not eligible for an initial swordfish or shark directed or incidental limited access permit but had a valid Atlantic tuna incidental permit as of August 31, 1998, then NMFS will issue initial incidental swordfish and shark limited access permits; no fishing for Atlantic tuna with longlines would be allowed without these incidental limited access permits.	Same, but through December 31, 1998
Written appeals only, no hardship cases heard	Same
Allow 15 swordfish per vessel per trip for directed swordfish permit holders until the incidental set-aside is filled	Same
For swordfish incidental limited access permits, allow five swordfish per trip for squid trawl vessels or two swordfish per trip for all other gear types. For shark incidental limited access permit holders, allow five large coastal shark per vessel per trip for all gear types, and a total of 16 pelagic or small coastal sharks, all species combined, per vessel per trip for all gear types	Same
Limited access permits are transferable with or without the sale of the permitted vessel, or to a replacement vessel owned or purchased by the original permittee (subject to upgrading restrictions - see following section), but not under any other circumstances.	Same
Adopt NEFMC and MAFMC upgrading restrictions	Same, but collect data and consider other methods, including hold capacity, for future
Restrict the number of Atlantic swordfish or shark permitted vessels that any one person or entity could own or control to no more than 5% of the directed swordfish or shark permitted vessels in the directed fisheries	Same

1.3 Management Units

As described in Section 1.1.1, the Magnuson-Stevens Act defines HMS to be tuna species, marlin (*Tetrapturus* spp. and *Makaira* spp.), oceanic sharks, sailfishes (*Istiophorus* spp.), and swordfish (*Xiphias gladius*). Tuna species are further defined as albacore tuna (*Thunnus alalunga*), bigeye tuna (*Thunnus obesus*), bluefin tuna (*Thunnus thynnus*), skipjack tuna (*Katsuwonus pelamis*), and yellowfin tuna (*Thunnus albacares*). Thus, the Secretary currently has the authority to manage directly those species listed above without a Regional Fishery Management Council's FMP.

National Standard (NS) 3 of the Magnuson-Stevens Act requires that "*to the extent practicable, an individual stock of fish shall be managed as a unit throughout its range, and interrelated stocks of fish shall be managed as a unit or in close coordination.*" This FMP develops U.S. policy and management for several interrelated stocks of fish and associated fisheries, throughout their ranges in the Atlantic Ocean and adjacent seas.

Following these guidelines and based on the best scientific information available on the range of the stocks, the HMS management unit consists of the populations of north Atlantic

swordfish (north of 5° N); west Atlantic bluefin tuna (west of 45° W above 10° N and at 25° W below the equator, with an eastward shift in the boundary between those parallels); Atlantic yellowfin tuna; Atlantic bigeye tuna; north Atlantic albacore tuna (north of 5° N); west Atlantic skipjack tuna; and the sharks that inhabit the northwest Atlantic Ocean. The management unit, and fishing activity for these species, extend across federal, and in some cases, state and international jurisdictional boundaries.

Swordfish are separated from other billfish (blue marlin, white marlin, longbill spearfish, and sailfish) for purposes of management because the swordfish fishery is primarily a commercial fishery, while the domestic fishery for billfish is recreational. Thus, billfish, other than swordfish, are managed under a separate FMP. Nevertheless, the management measures in the Billfish FMP and in the HMS FMP are designed to be complementary, particularly in the area of bycatch.

The species in the shark management sub-unit have traditionally been separated into three species groups for abundance assessments: large coastal sharks (22 species), small coastal sharks (seven species), and pelagic sharks (ten species) (see Table 1.1 for species included in the shark management sub-unit). This FMP further divides the large coastal shark group into ridgeback and non-ridgeback species for more effective management[2], shifts several species from the large coastal sharks, small coastal sharks, and pelagic management sub-units to the prohibited species sub-unit, and establishes a deepwater/other management unit. Currently, sharks are not grouped by ecological factors; the groups are based on fisheries or where the species appear in the landings. For example, the silky shark and the bignose shark are found in both the pelagic environment and in deeper coastal waters, but for management purposes they are placed in the large coastal species group. Other species may be included for enforcement reasons because they closely resemble species in the management unit. The Galapagos shark and the bigeye sand tiger shark, for example, are rare in U.S. waters, but are similar to the commercially harvested dusky and sand tiger sharks, respectively and thus are included in the large coastal shark management subunit.

Thirty-three shark species that were previously included only for data reporting are now included in the shark management unit (spiny dogfish, which are under joint management of the New England and Mid-Atlantic Fishery Management Councils, is not included in this FMP; see Table 1.2). This FMP prohibits finning for sharks in this new species group, called deepwater and other sharks. Many of these species tend to be small, deepwater species that are not targeted in HMS fisheries. Some of these species are taken incidentally in directed shark, tuna, or swordfish fisheries, while others, such as smooth dogfish, are the targets of directed fisheries. Data are also collected on species that are caught and marketed as secondary target species in the directed swordfish, tuna, and shark fisheries. None of these related species are included in maximum sustainable yield estimates.

[2] A number of shark species in the large coastal sharks management unit are characterized by a mid-dorsal ridge that is easily identified even after the fish has been headed, gutted, and finned. This mid-dorsal ridge is useful as a diagnostic characteristic for management and enforcement purposes.

Table 1.1 Sharks in the management unit by species groups**.**

Prohibited Species	
Sand tiger	*Odontaspis taurus*
Bigeye sand tiger	*Odontaspis noronhai*
Whale	*Rhincodon typus*
Basking	*Cetorhinus maximus*
White	*Carcharodon carcharias*
Dusky	*Carcharhinus obscurus*
Bignose	*Carcharhinus altimus*
Galapagos	*Carcharhinus galapagensis*
Night	*Carcharhinus signatus*
Caribbean reef	*Carcharhinus perez*
Narrowtooth	*Carcharhinus brachyurus*
Caribbean sharpnose	*Rhizoprionodon porosus*
Smalltail	*Carcharhinus porosus*
Atlantic angel	*Squatina dumerili*
Longfin mako	*Isurus paucus*
Bigeye thresher	*Alopias superciliousus*
Sevengill	*Heptranchias perlo*
Sixgill	*Hexanchus griseus*
Bigeye sixgill	*Hexanchus vitulus*
Large Coastal Sharks	
Ridgeback Species	
Sandbar	*Carcharhinus plumbeus*
Silky	*Carcharhinus falciformis*
Tiger	*Galeocerdo cuvieri*
Non-Ridgeback Species	
Blacktip	*Carcharhinus limbatus*
Spinner	*Carcharhinus brevipinna*
Bull	*Carcharhinus leucas*
Lemon	*Negaprion brevirostris*
Nurse	*Ginglymostoma cirratum*
Scalloped hammerhead	*Sphyrna lewini*
Great hammerhead	*Sphyrna mokarran*
Smooth hammerhead	*Sphyrna zygaena*
Small Coastal Sharks	
Atlantic sharpnose	*Rhizoprionodon terraenovae*
Finetooth	*Carcharhinus isodon*
Blacknose	*Carcharhinus acronotus*
Bonnethead	*Sphyrna tiburo*
Pelagic Sharks	
Shortfin mako	*Isurus oxyrinchus*
Porbeagle	*Lamna nasus*
Thresher	*Alopias vulpinus*
Oceanic whitetip	*Carcharhinus longimanus*
Blue	*Prionace glauca*

Table 1.2 The new shark species group: Deepwater and other species. Sharks in this species group were included for data reporting under the original shark FMP. Under this FMP, finning of these sharks is prohibited. Spiny dogfish, *Squalus acanthias*, is not included because it is managed by the New England and Mid-Atlantic Councils.

Iceland cat shark	*Apristurus laurussoni*
Smallfin cat shark	*Apristurus parvipinnis*
Deepwater cat shark	*Apristurus profundorum*
Broadgill cat shark	*Apristurus riveri*
Marbled cat shark	*Galeus arae*
Blotched cat shark	*Scyliorhinus meadi*
Chain dogfish	*Scyliorhinus retifer*
Dwarf catshark	*Scyliorhinus torrei*
Japanese gulper shark	*Centrophorus acuus*
Gulper shark	*Centrophorus granulosus*
Little gulper shark	*Centrophorus uyato*
Kitefin shark	*Dalatias licha*
Flatnose gulper shark	*Deania profundorum*
Portuguese shark	*Cetroscymnus coelolepis*
Greenland shark	*Somniosus microcephalus*
Lined lanternshark	*Etmopterus bullisi*
Broadband dogfish	*Etmopterus gracilispinnis*
Caribbean lanternshark	*Etmopterus hillianus*
Great lanternshark	*Etmopterus princeps*
Smooth lanternshark	*Etmopterus pusillus*
Fringefin lanternshark	*Etmopterus schultzi*
Green lanternshark	*Etmopterus virens*
Cookiecutter shark	*Isistius brasiliensis*
Bigtooth cookiecutter	*Isistius plutodus*
Smallmouth velvet Dogfish	*Scymnodon obscurus*
Pygmy shark	*Squaliolus laticaudus*
Roughskin spiny dogfish	*Squalus asper*
Blainville's dogfish	*Squalus blainvillei*
Cuban dogfish	*Squalus cubensis*
Bramble shark	*Echinorhinus brucus*
American sawshark	*Pristiophorus schroederi*
Florida smoothhound	*Mustelus norrisi*
Smooth dogfish	*Mustelus canis*

1.4 Scientific Data and Research Needs

Under § 971(i)(b), ATCA directs the Secretary to develop and implement a comprehensive research and monitoring program to support the conservation and management of Atlantic bluefin tuna and other HMS. To support the conservation and management of HMS as required by ATCA, NMFS developed a comprehensive research and monitoring plan. This plan is consistent with the legal requirements of ATCA and with the NMFS Strategic Plan (May 1997) and the Strategic Plan for Fisheries Research (February 1998). It was developed after consultation with the ICCAT Advisory Committee, relevant federal and state agencies, scientific and technical experts, commercial and recreational fishermen, and other interested persons, public and private. NMFS intends to revise the plan annually. The objective of this comprehensive research and monitoring plan is to ensure that NMFS science is of the highest quality and that it advances the agency's ability to make sound management decisions.

This research program provides for, but is not limited to:

- statistically designed cooperative tagging studies;
- genetic and biochemical stock analyses;
- population censuses carried out through aerial surveys of fishing grounds and known migration areas;
- adequate observer coverage and port sampling of commercial and recreational fishing activity;
- collection of comparable real-time data on commercial and recreational catches and landings through the use of permits, logbooks, landings reports for charter operations and fishing tournaments, and programs to provide reliable reporting of the catch by private anglers;
- studies of the life history parameters of Atlantic bluefin tuna and other HMS;
- integration of data from all sources and the preparation of data bases to support management decisions; and
- other research as necessary.

In developing this program, the Secretary must ensure that the personnel and resources of each regional research center have substantial participation in the stock assessments and monitoring of HMS that occur in the region. The plan shall provide for comparable monitoring of all U.S. fishermen, subject to the authority of ATCA, with respect to fishing effort and the species composition of catch and discards. Finally, ATCA specifies that, through the Secretary of State, the Secretary shall encourage other member nations to adopt a similar research and monitoring program for Atlantic HMS.

Section 303 (a)(8) of the Magnuson-Stevens Act requires NMFS to specify the scientific data needed for effective implementation of this FMP. These research and data needs include but are not limited to the following:

- continue to participate in international research on stock identification and definition of the management units, including mixing rates;
- continue to monitor fishery removals, including the size/sex/age and the disposition of the catch (e.g., landings vs. discards);
- determine measures of relative or absolute abundance based on fisheries-dependent and fisheries-independent surveys;
- continue research on life history parameters including growth, natural mortality, reproductive rates and migration rates, and ecological/oceanographic interactions which affect these parameters;
- continue research on the ways in which life history parameters are related to stock identification and the estimation of catch at age;
- conduct social and economic studies of HMS industries and fishing communities;

- develop robust methods to characterize the risk to the stocks based on existing and potential fishery management measures;
- study the effects of alternative allocations and management tactics on fishing behavior;
- improve data on the character and magnitude of bycatch to allow quantitative estimates of discards in the fisheries for use in stock assessments and making management decisions;
- improve gear handling techniques to reduce discard mortality;
- conduct research on gear-deployment methods that will reduce interactions with protected species that encounter fishing gear;
- conduct research on ways to reduce bycatch and bycatch mortality of billfish captured in the directed fisheries for Atlantic HMS;
- conduct research on ways to reduce bycatch and bycatch mortality of undersized swordfish and tuna, including research on gear modifications;
- identify swordfish spawning and nursery areas in the U.S. EEZ and beyond in order to evaluate possible time/area closures;
- determine bycatch and bycatch mortality rates of sharks, particularly prohibited species and juvenile (undersized) sharks, and conduct research on ways to minimize this mortality;
- determine post-release survival rates of HMS in recreational fisheries;
- improve data collection and monitoring of the recreational tuna and shark communities;
- revise U.S. historical landings records for Atlantic bigeye, albacore, yellowfin, and skipjack (BAYS) tuna;
- continue research to determine nursery areas and spatial and temporal use of nursery areas for sharks by size/stage and species; expand such research to other areas and species;
- continue data rescue projects for sharks, focusing on locating and compiling existing set-by-set data as well as data related to historical species composition;
- continue and expand fishery independent monitoring and tagging studies for all HMS;
- increase observer sampling in all shark fisheries, particularly in the west Gulf of Mexico and in the southeast shark drift gillnet fishery;
- continue to characterize Mexican, Canadian, and Caribbean shark catches;
- standardize shark catch rate time series for factors thought to influence catch rates but not related to abundance;
- continue development of size and stage based models for important shark species, including sandbar and blacktip sharks;
- conduct a stock assessment on small coastal sharks and species-specific assessments on dusky and sand tiger sharks;
- pursue international research and assessment efforts on pelagic sharks;

- work cooperatively with the fishing industry to transfer new knowledge and techniques between fishermen and researchers; and
- develop conversion equations for various measurements (e.g., total curved fork length to pectoral fin curved fork length, pectoral fin curved fork length, or to caudal keel curved fork length) for all HMS.

The Endangered Species Act, through the process of the Section 7 Consultation and the Biological Opinion and Incidental Take Statement, requires NMFS to conduct research that would reduce bycatch and bycatch mortality of threatened and endangered species. NMFS is required by the Biological Opinion (which contains the Incidental Take Statement), to:

- conduct a cost/benefit analysis to determine, by protected species, what levels of observer coverage are necessary, and, considering economic realities, provide guidance regarding the course of action NMFS should pursue with respect to future levels of coverage in this fishery;
- conduct an evaluation of existing data on turtle bycatch and consider the impacts on implementing measures that may reduce takes of turtles in the pelagic longline fishery;
- support genetic research to quantify the segments of the sea turtle populations impacted by HMS fisheries;
- assess existing data on the effects of lightstick use on turtle interactions and determine whether additional action would be effective in protecting sea turtles.

For additional research needs relative to HMS Essential Fish Habitat, refer to Section 6.7

1.5 Development of Fishery Resources

This section of the Atlantic HMS FMP identifies fishery resources associated with tuna, swordfish, and shark stocks and their potential for future development by commercial or recreational commercial fishing operations. Most stocks associated with Atlantic HMS are already utilized to some degree in commercial and recreational fisheries, and some of these species are designated as fully fished (yellowfin tuna, pelagic sharks, small coastal sharks) or overfished (bluefin tuna, albacore, large coastal sharks, and north Atlantic swordfish, bigeye tuna, sailfish, blue marlin, white marlin (NMFS, 1998)). There is insufficient information available to assess the status of other HMS target stocks, such as skipjack tuna. The precautionary approach to management suggests that management should be conservative in the absence of stock assessment data. As described below, opportunities for development of fishery resources associated with Atlantic HMS are very limited. Even if a related species could sustain increased fishing pressure, bycatch effects on already overfished associated stocks could be detrimental and would be contrary to the objectives of this FMP and to the precautionary approach to fisheries management.

Commercial Fishing - Dolphin fish

The common dolphin, *Coryphaena hippurus*, (also known as mahi mahi and dolphinfish), subsequently referred to as dolphin, is often incidentally caught in directed commercial and recreational fisheries for Atlantic swordfish, sharks, bluefin tuna, and BAYS tuna. Dolphin have historically been landed by offshore recreational fisherman who account for approximately 90 to 95 percent of the annual harvest in the south Atlantic (Daniel, 1998). However, since 1994, after shark and swordfish quotas have been met, longline vessels have increasingly adapted their gear to target and focus more effort on dolphin. Commercial landings have increased from a level of approximately 45,000 pounds (lbs) dressed weight (dw) per year between 1970 and 1988, to approximately 200,000 lbs dw per year from 1989 to 1994, to current annual landings that exceed 450,000 lbs dw per year (SAFMC, 1996). In 1995, recreational landings of dolphin in the south Atlantic were slightly more than 12 million lbs while the commercial harvest was approximately 500,000 lbs dw (Daniel, 1998). These dolphin landings in 1995 constituted nearly 16 percent by weight of the estimated catch by U.S. pelagic longline and driftnet vessels (Thompson, 1998).

The dolphin is an oceanic pelagic fish found worldwide in tropical and subtropical waters. In the west Atlantic, dolphin range from Georges Bank, Nova Scotia to Rio de Janeiro, Brazil but are generally restricted by the 20°C isotherm. They exhibit high growth rates, early maturity, batch spawning over an extended season, a short life span and a varied diet (Oxenford, 1998). These life history characteristics make them able to withstand relatively high fishing rates. However, based upon a stock assessment in Barbados, the 1998 South Atlantic Fishery Management Council (SAFMC) Dolphin/Wahoo Workshop noted that there is a high risk of stock depletion with little warning given that the fishery may remain feasible at low stock levels because of the tendency of the fish to aggregate, and the current trends for increasing fishing effort. There is also a potential for recruitment overfishing given that fish are economically valuable before size at first maturity, and the high inter-annual variability in abundance, apparently driven by environmental factors.

Management measures for dolphin have been considered previously in the public hearing drafts for Amendments 5 and 8 to the FMP for Coastal Pelagic Resources, managed jointly by the South Atlantic Fishery Management Council (SAFMC) and the Gulf of Mexico Fishery Management Council (GMFMC). In each case, after reviewing public hearing testimony, both Councils chose to forego any management for these species due to lack of public support for any specific measures. However, recent increases in longline trips that target dolphin in the south Atlantic Exclusive Economic Zone (EEZ) have raised concerns in terms of potential billfish bycatch, dolphin overfishing, and historical allocation between recreational and commercial user groups. As a result of these concerns, particularly in the State of South Carolina, the South Atlantic Fisheries Management Council (SAFMC) began developing a fishery management plan for dolphin and wahoo.

During the latter part of 1996 to early 1997, the SAFMC received correspondence expressing concern over increased landings of dolphin by longliners and decreased recreational catches off the coast of South Carolina. In August 1997, SAFMC approved a motion to begin

development of an FMP for dolphin and wahoo. The Council requested that a letter be sent to the Secretary requesting true lead for the plan by the SAFMC. The Council also requested that a control date be set for dolphin and wahoo upon publication in the *Federal Register*. Alternatives to be considered in the plan were also discussed and motions to include the following were made: consider allocations between recreational and commercial fishermen (a complete range of allocation scenarios); develop a framework option to include other means of controlling fishing mortality: recreational retention limits, commercial retention limits, etc.; develop options to implement reporting requirements; and finally to organize a workshop on dolphin and wahoo management.

On September 11, 1997, the SAFMC requested that NMFS' Regional Administrator designate the SAFMC as the Regional Fishery Management Council responsible for preparation of an FMP and subsequent amendments for the fisheries for dolphin and wahoo throughout their range in the exclusive economic zone of the Atlantic Ocean, including the Gulf of Mexico and Caribbean Sea. A *Federal Register* notice of the SAFMC's request was published on March 9,1998 (63 FR 11422), with a comment period to end on April 8,1998. On April 13, 1998, an additional 45 days were added to the comment period, at the request of the GMFMC, to allow more time to fully consider the issues and impacts and develop and submit more specific and extensive comments on the proposal. A dolphin and wahoo management workshop was held on May 6 to 8, 1998, in Charleston, SC, at which panel members from the Caribbean and the southeast United States discussed the current status of dolphin and wahoo research. The SAFMC has created a Dolphin/Wahoo Committee and Advisory Panel to begin looking at possible management measures. On June 19, 1998, the SAFMC wrote another letter to NMFS to reiterate its request for lead on management of dolphin and wahoo and to clarify its position regarding an Intercouncil Committee. At the December 1998 SAFMC meeting, the Council voted to accept a NMFS proposal that the SAFMC accept true lead for dolphin/wahoo management in the Atlantic and administrative lead for management in the Gulf and Caribbean. A letter was mailed December 16, 1998, outlining the Council's proposal. A NMFS response is expected in the near future.

The SAFMC also submitted a letter to the Regional Administrator on July 9,1998, requesting a control date for the commercial fishery for dolphin. That request when published in the *Federal Register* will also include wahoo as the original motion intended. The GMFMC also supports a control date for dolphin in the SAFMC area of jurisdiction. On September 8, 1998, the Council submitted a letter to the Regional Administrator requesting data to be provided to staff to complete the analysis of alternatives included in the dolphin/wahoo options paper. Complete analysis will be completed and distributed at the June 1999 Dolphin/Wahoo Committee meeting in Key West, FL.

Commercial fishing - Blue sharks

Blue sharks account for approximately 15 percent, by number, of the 1995 total estimated catch by U.S. longline and gillnet vessels. Despite the large number caught, 98 percent of blue sharks are discarded. The meat of blue sharks is not valuable due to its high urea content. In the Pacific, many blue sharks are utilized only for their fins. After finning the sharks, the carcasses

are usually discarded, a practice that is prohibited for Atlantic sharks. Blue sharks can also be marketed for their cartilage, and are used in several medicinal and food products in Asia (Rose, 1996). In the Atlantic, however, where both carcasses and fins must be landed, most blue sharks are discarded whole because the value of their fins is not worth the space their carcasses occupy on a vessel. Generally, sharks are vulnerable to overfishing because they produce few offspring, mature late in life, and live many years. Blue sharks are thought to be somewhat more resilient to fishing pressure than some other shark species; however, they share some of these basic life history traits. As opportunistic surface feeders, they are subject to high encounter rates with fishing operations and may be vulnerable to overfishing in this way, although, blue sharks are often released alive.

In addition to potential overfishing problems with development of a blue shark market, conflicts between commercial and recreational fishermen could also pose a potential problem. Blue sharks are often targeted by tournament anglers in the mid-Atlantic states and southern New England, and anglers also generally discard their blue shark catches. Finally, other nations also exert heavy fishing pressure on Atlantic blue sharks, and an assessment of the population has not been conducted since 1992. The precautionary approach suggests that development of a directed blue shark fishery would be inappropriate in the absence of more complete information about total fishing effort and trends in the status of the stock. This FMP takes a precautionary approach by capping fishing mortality for blue sharks at recent levels, and counting all mortality (landings and dead discards) against this cap. This could allow some expansion in utilization of blue sharks if a market develops, but it will not allow an increase in fishing mortality. In April 1999, SCRS will conduct an intersessional meeting on pelagic shark catch rates from fisheries targeting tuna and tuna-like species in the Atlantic Ocean. Additional information on pelagic sharks and the status of blue sharks in particular may be available after that intersessional.

Commercial fishing - Oilfish

Oilfish are also taken in the pelagic longline fishery and represent a little over two percent of the total 1995 estimated catch, by number, by U.S. pelagic longline and gillnet vessels. There are two different species reported under this common name: *Lepidocybium flavobrunheum* (escolar) and *Ruvettus pretiosus* (oilfish). With roughly 40 percent of oilfish caught discarded, they also appear to be underutilized. However, in 1992, the U.S. Food and Drug Administration (FDA) issued a recommendation to all U.S. fish dealers to not market oilfish in interstate commerce following several complaints of their purgative properties. Consequently, development of oilfish markets could be very difficult.

Recreational fishing - Billfish

Opportunities for development of recreational fisheries associated with Atlantic HMS are equally limited. Atlantic billfish, which are managed under a complementary FMP, are targeted by private recreational fishing vessels as well as in sport tournaments. Billfish are also captured incidentally in the directed tuna/swordfish longline and driftnet fisheries. Retention of Atlantic billfish by commercial fishing vessels is prohibited in the U.S. EEZ; thus, there is no potential for development of a directed commercial fishery for billfish. Expansion of the recreational

fishery for billfish is also unlikely. Blue marlin, white marlin, and sailfish have been designated as overfished and there is little information available about the status of the spearfish population. Furthermore, the United States is currently implementing measures to meet an ICCAT recommendation to reduce landings of blue and white marlin by at least 25 percent from 1996 levels.

Many billfish recreational fishermen attest there is no substitute for the experience of catching a blue marlin. In a study of resident and non-resident participants in Puerto Rican billfish tournaments, based on information collected through a mail questionnaire (Ditton and Clark, 1994), 76 percent of respondents listed blue marlin and the generic category of marlin as their most preferred target species. Dolphin was the only other species specifically targeted by more than ten percent of billfish anglers as their first choice. Second choices were most frequently listed by billfish anglers as dolphin (38 percent) and sailfish (20 percent), while dolphin (26 percent) and wahoo (24 percent) were anglers' most frequently listed third preference. Therefore, potential decreases in angler satisfaction or loss of angler participation in the billfish fishery could potentially impact the dolphin and wahoo recreational fisheries.

1.6 Total Allowable Level of Foreign Fishing

Title II of the Magnuson-Stevens Act establishes the system for the regulation of foreign fishing within the U.S. EEZ. These regulations are published in 50 CFR 611. The regulations provide for the setting of a total allowable level of foreign fishing (TALFF) for species based on the portion of the optimum yield that will not be caught by U.S. vessels. At the present time, no TALFF is available, since the United States has the capacity to harvest up to the level of optimum yield of all species subject to this FMP. One objective of this FMP is to match domestic fleet capacity with resource status (and thus, available quota) suggesting that no TALFF is likely to be available during or following rebuilding of overfished HMS stocks.

Atlantic swordfish and tuna are managed internationally by ICCAT. Once the United States has accepted a quota as recommended by ICCAT, NMFS may not change the quota allocated to U.S. fishermen. U.S. fishermen have the capacity to harvest the entire U.S. quota for these species. Therefore, the U.S. quota for these species is not available for foreign fishing. Large coastal sharks are overfished and the fishery is severely overcapitalized such that U.S. fishermen have the capacity to harvest more than the optimum yield for these species. Pelagic sharks and small coastal sharks are fully fished, and any increases in yield from foreign fishing would be expected to result in overfishing. Therefore, no Atlantic sharks are available for foreign fishing. U.S. fish processors have the capacity to process all of the U.S. quota for Atlantic swordfish and bluefin tuna, and to process all of the optimum yield of Atlantic sharks and BAYS tuna.

1.7 Relationship to International Agreements, Applicable Laws, and Other Fishery Management Plans

While the Magnuson-Stevens Act, Atlantic Tunas Convention Act, Marine Mammal Protection Act (MMPA), and Endangered Species Act (ESA) guide most basic fishery management, these management programs must also be consistent with several other laws,

including the National Environmental Policy Act (NEPA), the Administrative Procedures Act (APA), the Regulatory Flexibility Act (RFA), Executive Order 12866, and the Paperwork Reduction Act (PRA). These applicable laws help ensure that NMFS considers the full range of alternative actions and their expected impacts on the marine environment, living marine resources, and the fishing businesses and communities that could be affected. This chapter addresses the requirements of these applicable laws. In addition, because they are fished by many nations, Atlantic HMS are also subject to international agreements and their domestic implementing legislation. This section discusses the relationship between management under this FMP and requirements of these statutes. The Final Regulatory Flexibility Analysis (FRFA) (which is required by RFA) and the Final Regulatory Impact Review (RIR) (which is required by E.O. 12866) are contained in Chapter 7; the revised Final Environmental Impact Statement (FEIS) (which is required by NEPA) is contained in Chapter 8; and the Social Impact Assessment (SIA)/Fishery Impact Statement (FIS), required by the Magnuson-Stevens Act, is contained in Chapter 9.

1.7.1 ICCAT and its relationship to ATCA and the Magnuson-Stevens Act

The U.S. fisheries for Atlantic HMS are managed by NMFS, acting for the Secretary under authority of ATCA and the Magnuson-Stevens Act. Since 1966, ICCAT has been responsible for international conservation and management of tuna and tuna-like fishes. ICCAT's stated objective is to "cooperate in maintaining the populations of these fishes at levels which will permit the maximum sustainable catch for food and other purposes." All of the Atlantic HMS including tuna, swordfish and billfish, with the exception of the shark species, are currently subject to ICCAT management authority. Research and data collection recommendations for sharks are considered by ICCAT's Subcommittee on Bycatch.

The conservation and management recommendations of ICCAT include total allowable catches, sharing arrangements for member countries, minimum size limits, effort controls, time/area closures, trade measures, compliance measures, and monitoring and inspection programs. If the United States accepts an ICCAT recommendation, ATCA provides the Secretary with the necessary authority to implement these binding ICCAT recommendations in the United States. However, no regulation promulgated under ATCA may have the effect of increasing or decreasing any allocation or quota of fish or fishing mortality level to which the United States agreed pursuant to a recommendation of ICCAT.

Similarly, the Magnuson-Stevens Act specifies that NMFS must provide fishing vessels of the United States with a reasonable opportunity to harvest any allocation or quota of an ICCAT species to which the United States has agreed. The FMP or amendment must specify a time period for ending overfishing and rebuilding the fishery that shall:

- be as short as possible, taking into account the status and biology of the stock of fish, the needs of fishing communities, recommendations by international organizations in which the United States participates, and the interaction of the overfished stock within the marine ecosystem; and

- not exceed ten years, except in cases where the biology of the stock of fish, other environmental conditions, or management measures under an international agreement in which the United States participates dictate otherwise.

Further, the Magnuson-Stevens Act requires NMFS to allocate both overfishing restrictions and recovery benefits fairly and equitably among sectors of the fishery. Fisheries managed under an international agreement must reflect traditional participation of U.S. fishermen in the fishery, relative to other nations. In preparing any FMP or amendment for Atlantic HMS, NMFS must "evaluate the likely effects, if any, of conservation and management measures on participants in the affected fisheries, and minimize, to the extent practicable, any disadvantage to United States fishermen in relation to foreign competitors."

To date, Atlantic tuna have been managed under the authority of ATCA. However, the Secretary may exercise dual authority in the management of Atlantic tuna and issue regulations under both ATCA and the Magnuson-Stevens Act. This FMP and its implementing regulations will incorporate all existing management measures for Atlantic tuna. In the future, the Secretary will implement Atlantic tuna regulations under the dual authority of the Magnuson-Stevens Act and ATCA, whenever possible. North Atlantic swordfish will continue to be managed under dual authority of ATCA and the Magnuson-Stevens Act following implementation of the combined HMS FMP. South Atlantic swordfish and south Atlantic albacore are regulated under ATCA only. Atlantic sharks are not subject to ICCAT management recommendations, thus they are managed solely under authority of the Magnuson-Stevens Act.

1.7.2 The United Nations Agreement on Straddling Fish Stocks and HMS

On December 4, 1995, the United States signed the Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea (U.N. Agreement) relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks. The U.N. Agreement has its origins in Agenda 21, the detailed plan of action adopted by the 1992 U.N. Conference on Environment and Development. It builds upon certain fisheries-related provisions of the 1982 U.N. Convention on the Law of the Sea, and reaffirms the central role of the Convention as the accepted foundation and framework for this critical body of international law. While all states have the right to engage in fishing on the high seas, the Convention qualifies this right with the duty to conserve high sea resources and to cooperate with other states in conservation efforts. In fulfilment of these obligations, multilateral fishery agreements and organizations such as ICCAT have been established to conserve and manage high sea fisheries.

The U.N. Agreement is designed to strengthen and make more specific the provisions of the Convention, and back the provisions with effective enforcement techniques and compulsory dispute settlement. This should give the international community mechanisms to reverse overfishing trends and create an opportunity to ensure sustainable marine fisheries. The Agreement recognizes that most of the actual conservation and management work for highly migratory fish stocks must be carried out through regional fisheries organizations (e.g., ICCAT), and therefore recommends some specific measures to

strengthen the operations of such organizations. For example, Article 8(3) requires any state whose fishermen wish to harvest a stock that is governed by such an organization either to join or to agree to apply the conservation and management measures established by the organization. This rule, if properly implemented, could greatly reduce the problems associated with "non-contracting party" fishing.

The U.N. Agreement sets forth general principles for fishery conservation and management, including obligations to:

- ensure the long-term sustainability of these stocks;
- take measures that are based on the best scientific information available;
- assess relevant environmental impacts;
- adopt conservation and management measures for other stocks belonging to the same ecosystem;
- minimize catch of non-target species; and
- take measures to prevent or eliminate overfishing and excess fishing capacity.

1.7.3 Other Fishery Management Plans

The fisheries for Atlantic swordfish and Atlantic sharks are currently managed under FMPs published in 1985 and 1993, respectively. The HMS FMP replaces those management plans, incorporating all existing management measures that have been implemented under the authority of the Magnuson-Stevens Act and the appropriate FMP. As discussed above, existing regulations for Atlantic tuna will be incorporated into this FMP.

This FMP was developed in coordination with the Billfish FMP Amendment. The billfish fishery has unique characteristics that were best served under a separate management plan. However, HMS fisheries are multi-species fisheries, with overlapping participants, target species, bycatch, and management concerns. Thus, NMFS will consider the Billfish FMP when developing and implementing management measures under this FMP. In addition, the FMP will address billfish bycatch in the pelagic longline fishery.

Management of the dolphin and dogfish fisheries may also affect the management of HMS under this FMP. The dolphin fishery is currently managed under the Coastal Migratory Pelagics of the Gulf of Mexico and South Atlantic FMP, prepared jointly by the SAFMC and GMFMC. There has not been a stock assessment conducted for dolphin in the Atlantic. The Councils have hired an independent contractor to conduct data analysis and present the results at the June 1999 Committee meeting.

Spiny dogfish are the subject of a management program under development by the New England and Mid-Atlantic Fishery Management Councils. On January 1998, the 26th Northeast Regional Stock Assessment Workshop determined that the spiny dogfish stock is over-exploited based on evidence that mean lengths of spiny dogfish are declining rapidly, minimum biomass estimates of mature females have decreased by nearly 50 percent

since 1990, and fishing mortality rates are well above sustainable levels. On April 3, 1998, NMFS notified the Mid-Atlantic and New England Fishery Management Councils, which share joint management responsibilities for spiny dogfish, that the fishery was overfished, thus initiating the one-year time frame for development of an FMP, as required under the Magnuson-Stevens Act. NMFS also published notice that spiny dogfish were being added to the list of overfished fisheries on April 10, 1998 (63 FR 17820). A draft FMP for spiny dogfish was released in August, 1998, and a final FMP is being prepared.

1.7.4 Relationship of this FMP to Existing HMS Management Measures

This FMP incorporates all existing management measures for Atlantic tuna and north Atlantic swordfish that have been issued previously under the authority of ATCA. It also incorporates all existing management measures for north Atlantic swordfish and Atlantic sharks that have been issued previously under the authority of the Magnuson-Stevens Act. This FMP replaces the existing FMPs for Atlantic swordfish and sharks and establishes an FMP for Atlantic tuna. Notable modifications or additions to the existing management program are discussed in this document. This FMP also includes measures that were modified under the mandate to consolidate all HMS regulations, per the President's Regulatory Reinvention Initiative. All existing management measures are retained under this FMP; modifications to some measures are explicitly discussed below. Should NMFS determine that further changes are necessary, they will be made through the FMP amendment process or through rulemaking as described in the framework provisions (Section 3.10).

1.7.5 Paperwork Reduction Act

The purpose of the Paperwork Reduction Act (PRA) is to reduce the paperwork burden on the public. The Director of the Office of Management and Budget has the authority to manage information collection and record keeping requirements in order to reduce paperwork burdens. This authority encompasses the establishment of guidelines and policies and the approval of information collection requests.

This FMP contains collection-of-information requirements subject to PRA. Fishing tournament registration and selective reporting in §644.5 is approved by OMB under control number 0648-0323 and is estimated at ten minutes per report. Amendment 1 to the Billfish FMP also includes a new collection-of-information requirement, in conjunction with the draft HMS FMP, for permits and logbook submissions from charter/headboats targeting Atlantic HMS and other highly migratory species. The PRA packages for all requests for data outlined in this FMP have been submitted to OMB for approval as required by law. More information on PRA and the approved information collection requests can be found at http://www.nmfs.gov/sfa/prorules.html.

1.7.6 Coastal Zone Management

NMFS has evaluated the final actions in this FMP relative to requirements of the Coastal Zone Management Act (CZMA) and determines that the final actions in this FMP

are consistent to the maximum extent practicable with the coastal zone management programs of those Atlantic, Gulf of Mexico, and Caribbean coastal states that have approved coastal zone management programs. The draft HMS FMP, draft Billfish Amendment, and draft Addendum to the HMS FMP were submitted to the responsible state agencies for their review under Section 307 of the Coastal Zone Management Act. The States of New York, Virginia, North Carolina, South Carolina, Mississippi, and Louisiana certified that the HMS FMP and Billfish Amendment concur with their applicable CZMA regulations. The States of Rhode Island and Delaware certified that the HMS FMP concurs with their applicable CZMA regulations. The States of Massachusetts, Connecticut, Pennsylvania, New Jersey, Georgia, and Texas certified that the Billfish Amendment concurs with their applicable CZMA regulations. The States of Pennsylvania, Virginia, and Georgia certified that the Addendum concurs with their applicable CZMA regulations. NMFS presumes that the remaining states that did not respond also concur.

The State of Georgia objected to the HMS FMP based on the continuing operation of the southeast shark drift gillnet fishery off its waters. NMFS shares the State of Georgia's concern regarding bycatch and bycatch mortality rates in this fishery and is gathering information on the effect of gillnets in Atlantic shark fisheries on protected species, juvenile sharks, and other finfish. However, because of limited data at this time regarding bycatch and bycatch mortality of protected species, juvenile sharks, and other finfish in shark drift gillnets, and because bycatch of endangered species in this fishery is regulated under the Endangered Species Act already, NMFS is not prohibiting use of this gear in shark fisheries at this time. In this FMP, NMFS requires 100 percent observer coverage in the southeast shark drift gillnet fishery at all times to increase data on catch, effort, bycatch and bycatch mortality rates in this fishery. NMFS encourages the State of Georgia to submit any data collected through state activities and will continue to work with the State to address the issues with this fishery.

1.7.7 Endangered Species Act

NMFS initiated consultation on the draft FMP in May 1998, in development of the FMP regarding the effects of proposed management measures on endangered species. A Biological Opinion was finalized in April, 1999. This Biological Opinion stated the final actions in the FMP did not justify a jeopardy opinion and that no irreversible or irretrievable commitment of resources are anticipated to result from final actions in this final FMP.

1.7.8 Marine Mammal Protection Act

This FMP contains final actions designed to meet the requirements of MMPA. In development of the FMP, NMFS entered into consultation in May 1998 regarding the effects of proposed management measures on marine mammals. In addition, this FMP implements certain requirements of the Large Whale Take Reduction Team.

1.7.9 Federalism

This FMP does not contain policies with federalism implications sufficient to warrant the preparation of an assessment under E.O. 12612. The affected states have been closely involved in developing the management measures through their participation in the HMS AP. The states were invited specifically to the February 1999 joint AP meeting to discuss state and federal concerns.

1.7.10 Executive Order 12866 (E.O. 12866)

Based on the definition of "significant regulatory action" in Section 3(f) of E.O. 12866, NMFS concludes that the final actions in the HMS FMP are significant. The Office of Information and Regulatory Affairs, Office of Management and Budget, was notified concerning the final FMP and the agency's determination that this FMP is significant.

1.8 What's in the HMS FMP

This final FMP is arranged differently than the draft FMP. Volume I contains the introduction (Chapter 1); a description of the Paperwork Reduction Act (Chapter 1); the Endangered Species Act (ESA; Chapter 1); and the Coastal Zone Management Act (CZMA; Chapter 1); the description of the fisheries (Chapter 2); management measures to rebuild and sustain sustainable fisheries (Chapter 3); and limited access (Chapter 4). Chapter 2 contains information on the status of the stocks; international, domestic, and economic aspects of HMS; a description of each gear type; the permitting and reporting regime before implementation of this FMP; and existing time/area closures. Chapter 3 contains management measures designed to rebuild overfished stocks and maintain the stocks that are rebuilt, along with the frameworking procedure. Chapter 4 contains the limited access program for the commercial Atlantic swordfish and shark fisheries, along with the permit requirements for commercial vessel owners who wish to enter the BAYS longline fishery.

Volume II, Chapters 5 and 6, contains the HMS essential fish habitat information. This includes information on habitat, HMS life histories, threats to essential fish habitat, and research needs.

Volume III contains information on other applicable laws. These include the Regulatory Impact Review (RIR; Chapter 7) required under E.O. 12866; the Final Regulatory Flexibility Analysis (FRFA; Chapter 7) required under the Regulatory Flexibility Act; the revised Final Environmental Impact Statement (FEIS; Chapter 8) required under the National Environment Policy Act; and the Social Impact Assessment (SIA; Chapter 9) required under the Magnuson-Stevens Act. Volume III also contains the appendices and the comments and response sections.

1.9 Relationship of the HMS FMP to the Magnuson-Stevens Act Requirements

As described in the sections above, the primary domestic legislation for HMS is the Magnuson-Stevens Act. This section lists the required provisions for a FMP. This FMP incorporates all of the required provisions and some of the discretionary ones.

SEC. 303. CONTENTS OF FISHERY MANAGEMENT PLANS 16 U.S.C. 1853

95-354, 99-659, 101-627, 104-297

(a) REQUIRED PROVISIONS.--Any fishery management plan which is prepared by any Council, or by the Secretary, with respect to any fishery, shall--

(1) contain the conservation and management measures, applicable to foreign fishing and fishing by vessels of the United States, which are--

(A) necessary and appropriate for the conservation and management of the fishery to prevent overfishing and rebuild overfished stocks, and to protect, restore, and promote the long-term health and stability of the fishery;

(B) described in this subsection or subsection (b), or both; and

(C) consistent with the national standards, the other provisions of this Act, regulations implementing recommendations by international organizations in which the United States participates (including but not limited to closed areas, quotas, and size limits), and any other applicable law;

(2) contain a description of the fishery, including, but not limited to, the number of vessels involved, the type and quantity of fishing gear used, the species of fish involved and their location, the cost likely to be incurred in management, actual and potential revenues from the fishery, any recreational interest in the fishery, and the nature and extent of foreign fishing and Indian treaty fishing rights, if any;

(3) assess and specify the present and probable future condition of, and the maximum sustainable yield and optimum yield from, the fishery, and include a summary of the information utilized in making such specification;

(4) assess and specify--

(A) the capacity and the extent to which fishing vessels of the United States, on an annual basis, will harvest the optimum yield specified under paragraph (3),

(B) the portion of such optimum yield which, on an annual basis, will not be harvested by fishing vessels of the United States and can be made available for foreign fishing, and

(C) the capacity and extent to which United States fish processors, on an annual basis, will process that portion of such optimum yield that will be harvested by fishing vessels of the United States;

(5) specify the pertinent data which shall be submitted to the Secretary with respect to commercial, recreational, and charter fishing in the fishery, including, but not limited to, information regarding the type and quantity of fishing gear used, catch by species in numbers of fish or weight thereof, areas in which fishing was engaged in, time of fishing, number of hauls, and the estimated processing capacity of, and the actual processing capacity utilized by, United States fish processors;

(6) consider and provide for temporary adjustments, after consultation with the Coast Guard and persons utilizing the fishery, regarding access to the fishery for vessels otherwise prevented from harvesting because of weather or other ocean conditions affecting the safe conduct of the fishery; except that the adjustment shall not adversely affect conservation efforts in other fisheries or discriminate among participants in the affected fishery;

(7) describe and identify EFH for the fishery based on the guidelines established by the Secretary under section 305(b)(1)(A), minimize to the extent practicable adverse effects on such habitat caused by fishing, and identify other actions to encourage the conservation and enhancement of such habitat;

(8) in the case of a fishery management plan that, after January 1, 1991, is submitted to the Secretary for review under section 304(a) (including any plan for which an amendment is submitted to the Secretary for such review) or is prepared by the Secretary, assess and specify the nature and extent of scientific data which is needed for effective implementation of the plan;

(9) include a fishery impact statement for the plan or amendment (in the case of a plan or amendment thereto submitted to or prepared by the Secretary after October 1, 1990) which shall assess, specify, and describe the likely effects, if any, of the conservation and management measures on–

(A) participants in the fisheries and fishing communities affected by the plan or amendment; and

(B) participants in the fisheries conducted in adjacent areas under the authority of another Council, after consultation with such Council and representatives of those participants;

(10) specify objective and measurable criteria for identifying when the fishery to which the plan applies is overfished (with an analysis of how the criteria were determined and the relationship of the criteria to the reproductive potential of stocks of fish in that fishery) and, in the case of a fishery which the Council or the Secretary has determined is approaching an

overfished condition or is overfished, contain conservation and management measures to prevent overfishing or end overfishing and rebuild the fishery;

(11) establish a standardized reporting methodology to assess the amount and type of bycatch occurring in the fishery, and include conservation and management measures that, to the extent practicable and in the following priority–

(A) minimize bycatch; and

(B) minimize the mortality of bycatch which cannot be avoided;

(12) assess the type and amount of fish caught and released alive during recreational fishing under catch and release fishery management programs and the mortality of such fish, and include conservation and management measures that, to the extent practicable, minimize mortality and ensure the extended survival of such fish;

(13) include a description of the commercial, recreational, and charter fishing sectors which participate in the fishery and, to the extent practicable, quantify trends in landings of the managed fishery resource by the commercial, recreational, and charter fishing sectors; and

(14) to the extent that rebuilding plans or other conservation and management measures which reduce the overall harvest in a fishery are necessary, allocate any harvest restrictions or recovery benefits fairly and equitably among the commercial, recreational, and charter fishing sectors in the fishery.

97-453, 99-659, 101-627, 102-251, 104-297

(b) DISCRETIONARY PROVISIONS.--Any fishery management plan which is prepared by any Council, or by the Secretary, with respect to any fishery, may--

(1) require a permit to be obtained from, and fees to be paid to, the Secretary, with respect to--

(A) any fishing vessel of the United States fishing, or wishing to fish, in the exclusive economic zone [or special areas,]* or for anadromous species or Continental Shelf fishery resources beyond such zone [or areas]*;

(B) the operator of any such vessel; or

(C) any United States fish processor who first receives fish that are subject to the plan;

(2) designate zones where, and periods when, fishing shall be limited, or shall not be permitted, or shall be permitted only by specified types of fishing vessels or with specified types and quantities of fishing gear;

(3) establish specified limitations which are necessary and appropriate for the conservation and management of the fishery on the–

(A) catch of fish (based on area, species, size, number, weight, sex, bycatch, total biomass, or other factors);

(B) sale of fish caught during commercial, recreational, or charter fishing, consistent with any applicable Federal and State safety and quality requirements; and

(C) transshipment or transportation of fish or fish products under permits issued pursuant to section 204;

(4) prohibit, limit, condition, or require the use of specified types and quantities of fishing gear, fishing vessels, or equipment for such vessels, including devices which may be required to facilitate enforcement of the provisions of this Act;

(5) incorporate (consistent with the national standards, the other provisions of this Act, and any other applicable law) the relevant fishery conservation and management measures of the coastal States nearest to the fishery;

(6) establish a limited access system for the fishery in order to achieve optimum yield if, in developing such system, the Council and the Secretary take into account--

(A) present participation in the fishery,

(B) historical fishing practices in, and dependence on, the fishery,

(C) the economics of the fishery,

(D) the capability of fishing vessels used in the fishery to engage in other fisheries,

(E) the cultural and social framework relevant to the fishery and any affected fishing communities, and

(F) any other relevant considerations;

(7) require fish processors who first receive fish that are subject to the plan to submit data (other than economic data) which are necessary for the conservation and management of the fishery;

(8) require that one or more observers be carried on board a vessel of the United States engaged in fishing for species that are subject to the plan, for the purpose of collecting data necessary for the conservation and management of the fishery; except that such a vessel shall not be required to carry an observer on board if the facilities of the vessel for the quartering of an observer, or for carrying out observer functions, are so inadequate or unsafe

that the health or safety of the observer or the safe operation of the vessel would be jeopardized;

(9) assess and specify the effect which the conservation and management measures of the plan will have on the stocks of naturally spawning anadromous fish in the region;

(10) include, consistent with the other provisions of this Act, conservation and management measures that provide harvest incentives for participants within each gear group to employ fishing practices that result in lower levels of bycatch or in lower levels of the mortality of bycatch;

(11) reserve a portion of the allowable biological catch of the fishery for use in scientific research; and

(12) prescribe such other measures, requirements, or conditions and restrictions as are determined to be necessary and appropriate for the conservation and management of the fishery.

SEC. 304. ACTION BY THE SECRETARY

104-297

(g) ATLANTIC HIGHLY MIGRATORY SPECIES.--

(1) PREPARATION AND IMPLEMENTATION OF PLAN OR PLAN AMENDMENT.–The Secretary shall prepare a fishery management plan or plan amendment under subsection (c) with respect to any highly migratory species fishery to which section 302 (a) (3) applies. In preparing and implementing any such plan or amendment, the Secretary shall --

(A) consult with and consider the comments and views of affected Councils, commissioners and advisory groups appointed under Acts implementing relevant international fishery agreements pertaining to highly migratory species, and the advisory panel established under section 302 (g);

(B) establish an advisory panel under section 302 (g) for each fishery management plan to be prepared under this paragraph;

(C) evaluate the likely effects, if any, of conservation and management measures on participants in the affected fisheries and minimize, to the extent practicable, any disadvantage to United States fishermen in relation to foreign competitors;

(D) with respect to a highly migratory species for which the United States is authorized to harvest an allocation, quota, or at a fishing mortality level under a relevant international fishery agreement, provide fishing vessels of the United States with a

reasonable opportunity to harvest such allocation, quota, or at such fishing mortality level;

(E) review, on a continuing basis (and promptly whenever a recommendation pertaining to fishing for highly migratory species has been made under a relevant international fishing agreement), and revise as appropriate, the conservation and management measures included in the plan;

(F) diligently pursue, through international entities (such as the International Commission for the Conservation of Atlantic Tunas), comparable international fishery management measures with respect to fishing for highly migratory species; and

(G) ensure that conservation and management measures under this subsection–
(i) promote international conservation of the affected fishery;
(ii) take into consideration traditional fishing patterns of fishing vessels of the United States and the operating requirements of the fisheries;
(iii) are fair and equitable in allocating fishing privileges among United States fishermen and do not have economic allocation as the sole purpose; and
(iv) promote, to the extent practicable, implementation of scientific research programs that include the tagging and release of Atlantic highly migratory species.

(2) CERTAIN FISH EXCLUDED FROM "BYCATCH" DEFINITION.-- Notwithstanding section 3 (2), fish harvested in a commercial fishery managed by the Secretary under this subsection or the Atlantic Tunas Convention Act of 1975 (16 U.S.C. 971d) that are not regulatory discards and that are tagged and released alive under a scientific tagging and release program established by the Secretary shall not be considered bycatch for the purposes of the Act.

1.10 List of Preparers

The development of this FMP involved input from numerous government agencies and constituent groups, including: the NMFS Southeast Fisheries Science Center; the NMFS Northeast Fisheries Science Center; the NMFS Northeast Regional Office; the NMFS Southeast Regional Office; the NMFS Headquarters Staff (F/SF; F/PR; F/HC; F/ST; F/PA); and the U.S. ICCAT Advisory Committee. Staff members of the Highly Migratory Species Management Division, Office of Sustainable Fisheries (F/SF), involved in preparing this FMP include:

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Jeron Stannard
Jill Stevenson
Buck Sutter
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Pat Wilbert

Valuable assistance was provided by staff of other F/SF, NMFS, and NOAA offices. Staff members of these other offices who were greatly involved in the development of this FMP and the rule are:

George Bell
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Raymond Slagle
Pat Turner
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Kathy Wang

In addition, a number of NMFS contractors and Sea Grant fellows helped develop and create this FMP and rule including:

Perry Allen
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Chris Perle
Dan Utech
Robyn Wingrove
Doug Wilson
Krista Woodley

Besides NMFS employees and contractors, NMFS consulted with and received comments from many groups and agencies. NMFS would like to thank the members of the HMS AP, the Billfish AP, and the Longline AP for their assistance both during the development phase and during the comment phase in preparing this FMP. In addition, NMFS received valuable support in the development of this FMP from commercial and recreational fishermen who have provided NMFS with valuable comments, information about the fisheries, photographs, and data in the form of mandatory logbooks, voluntary economic information, and observer information for many years. Comments received from the environmental community and other concerned constituents were also helpful in the development of the alternatives considered in this FMP.

1.11 List of Agencies and Organizations Consulted

As part of the HMS management process, “consulting parties” participate in the preparation and evaluation of draft FMP documents. The consulting parties include the U.S. Department of State (DOS); the U.S. Coast Guard (USCG); the New England Fishery Management Council; the Mid-Atlantic Fishery Management Council; the Caribbean Fishery Management Council; the Gulf of Mexico Fishery Management Council; the South Atlantic Fishery Management Council; the

U.S. ICCAT Advisory Committee; the ICCAT Commissioners; and the APs appointed under the Magnuson-Stevens Act. Copies of the draft FMP were distributed to the consulting parties during the public comment period. NMFS carefully considered all comments received from the public and the consulting parties before developing the final actions in this FMP and rule.

Several consulting parties (the regional fishery management councils and the U.S. ICCAT Advisory Committee) are represented on the APs, providing them the opportunity to comment on draft materials at several stages of the FMP development process. The HMS AP met seven times during development of this document. The HMS AP is composed of representatives of the commercial and recreational fisheries, the commercial trade sector, the charter/headboat sector, conservation organizations, academic institutions, regional fishery management councils, state fishery management agencies, and the U.S. ICCAT Advisory Committee. The members of the HMS AP are listed in Appendix 1. HMS AP meetings are open to the public and each meeting includes a public comment period.

In addition to AP members and NMFS staff, the following reviewers were asked to provide independent reviews of the species information in the Essential Fish Habitat chapter for accuracy, clarity and completeness:

Tuna and Swordfish:	E.D. Houde	Sharks:	Grant Gilmore
	D.P. de Sylva		Jack Musick
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